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ABSTRACT

A study was conducted to determine what proportion of Saddleback College (California) students were willing to take afternoon classes and their preferred class times. A random sample of 2,600 students registering for the spring 1986 semester was asked to complete a questionnaire. Study findings, based on 1,308 usable responses, included the following: (1) 58.8% of the sample indicated that they were willing to take afternoon classes; (2) males and females showed equal willingness to take afternoon classes; (3) students under 20 years of age were the group least willing to take afternoon classes; (4) the majority of the students interested in afternoon classes preferred 3 unit courses to be scheduled in two 1.5 hour sessions; (5) 3-hour class sessions were most popular with students in their 30's, 40's, and 60's; (6) 1:30-3:00, Monday and Wednesday, or Tuesday and Thursday, was the preferred time slot; and (7) English and mathematics classes were most often requested for inclusion in the afternoon schedule. Based on study findings, it was recommended that more afternoon general education and transfer courses be included in the schedule of classes. The survey instrument is included. (Author/AYC)

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DETERMINATION OF STUDENT WILLINGNESS TO TAKE AFTERNOON CLASSES AND CLASS TIME PREFERENCE

by

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Saddleback College

A Practicum presented to Nova University in partial fulfillment of the requirements for the degree of Doctor of Education

Nova University

April, 1986

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ABSTRACT

It was the purpose of this investigation to determine the proportion of Saddleback College students who were willing to take afternoon classes and their preferred afternoon class schedule times. A random sample of students who passed through the registration stations for the spring 1986 semester were asked to complete a questionnaire. Fifty-eight percent of this sample returned the questionnaire at least partially completed. Using the test for proportions and a level of significance of .05 a significant nonresponse age bias was observed in the respondents. Two alternatives were employed separately to remove this bias: 1) weighting factors were applied to all respondent's questionnaires, 2) the respondents were randomly sampled within constraints which removed the age bias.

It was found that the proportion of students willing to take afternoon classes was in the interval from 55% to 63% with a confidence level of 95%. The majority of students in all age groups except those under 20 years of age were willing to take afternoon classes. The students preferred three unit courses to be held in 1.5 hour blocks twice a week or in a single 3 hour block each week. The most popular class times were those starting near 1:30 p.m. There was also interest in late afternoon classes beginning at 4:30 p.m. English and mathematics classes were most often requested for inclusion in the afternoon schedule. The majority of students willing to take afternoon classes were primarily seeking an education appropriate for transfer to the four year college or university.

It was recommended that more afternoon general education and popular transferable courses be included in the schedule of classes. The proportion of students willing to take such courses exceeded the proportion of students actually enrolled in the afternoon. The increased student attendance allowed by such an expansion of the class schedule would improve both the financial health and physical utilization of Saddleback College.

TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
Chapter	
1. INTRODUCTION	1
Nature of the Problem	1
Purpose of the Investigation	2
General Description of the Method of Investigation	2
2. BACKGROUND AND SIGNIFICANCE	3
Relationship of the Investigation to the Societal Factors Seminar	3
Significance of the Investigation to Saddleback College.	4
Review of the Literature	4
3. PROCEDURES	11
Population and Sample Selection	11
Questionnaire	14
Collection of Data	14
Assumptions of the Investigation	14
Limitations of the Study	15
Analysis of the Data	15
4. RESULTS	16
5. DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS	24
Discussion	24
Implications	25
Recommendations	28

TABLE OF CONTENTS (cont.)

Page

BIBLIOGRAPHY 29

APPENDICES

A. QUESTIONNAIRE USED IN THE INVESTIGATION 31

B. POPULATION AND SAMPLE DEMOGRAPHICS 33

C. AFTERNOON CLASS SCHEDULE PREFERENCES OF STUDENTS WILLING TO TAKE AFTERNOON CLASSES 35

LIST OF TABLES

Table		Page
1.	Proportion of Gender and Age Categories Willing To Take Afternoon Classes	16
2.	Primary Educational Reasons Students Willing To Attend In the Afternoon Sought Classes	17
3.	Three Unit Course Schedule Preferences For Students Willing To Take Afternoon Classes	19
4.	Ten Most Preferred Afternoon Class Times For Three Unit Courses	20
5.	Ten Afternoon Class Schedule Times Most Preferred By Male and Female Students	21
6.	Number of Afternoon Courses Requested From Each Instructional Division	22
7.	Disciplines That Received Twenty Or More Afternoon Course Requests	23

Chapter 1

INTRODUCTION

Nature of the Problem

The typical community college class schedule can be described as very busy through the morning and until after lunch. A lull then sets in until early evening when activity again returns to a significant level (Cohen and Atherton 1981). Concentrating classes into a relatively few prime time blocks can severely restrict the students' ability to schedule all the classes they would like to have (Blakesley 1982). Students often cite the inability to schedule conveniently the classes they want as their reason for taking partial loads, dropping classes, dropping of out college, or not even considering returning to college for further education (Zitzewitz 1982, Donsky 1979, Gresty 1981, Friedman 1979, Gallay and Hunter 1978). Scheduling difficulty for students can result in a significant loss of enrollment to a college and threaten the institution's ability to deliver services and expand upon existing programs and facilities (Gresty 1981).

The class schedule typical for community colleges has been a source of frustration for those concerned with maximizing the utilization of instructional facilities. It concentrates large numbers of students and staff on campus over relatively short periods. This creates a great deal of congestion and frustration for students in food service lines, in crowded classes or in search of a parking space. In the afternoon the under utilization is obvious. While central heating and cooling systems

continue to run to supply a few labs, classrooms and administrative offices; a major part of the physical plant is idle (Cohen and Atherton 1981).

Purpose of the Investigation

The Carnegie Council on Policy Studies in Higher Education found, in a 1978 survey of American colleges and universities, that the public two year colleges emerged as the most innovative of all higher education categories with respect to planning new schedule options (Carnegie 1982). This study will form a basis for decisions concerning possible class schedule alternatives at Saddleback College. It was the purpose of this investigation to determine the proportion of Saddleback College students who were willing to take afternoon classes. The students' preferences for afternoon class times and number of meetings each week for three unit courses was also identified.

General Description of the Method of Investigation

The method of investigation was an opinion survey conducted on a sample of students passing through the class registration stations for the spring 1986 semester. The questionnaires were collected before the students left the registration area. From the responses to the questions on the questionnaire, it was possible to estimate the proportion of the entire student population who were willing to take afternoon classes in addition to the other results described in this report.

Chapter 2

BACKGROUND AND SIGNIFICANCE

Relationship of the Investigation to the Societal Factors Seminar

The college is but a single part of the lives of its students. The portion of the day and/or evening they are able or willing to attend class depends on the other demands society places on them. Cohen and Atherton (1981) state that full-time day students have preferred morning classes in order to keep afternoons as free as possible for part-time work or for recreation. Capps (1985) found, in a profile of evening students at Somerset County College, New Jersey, that 92% of the evening student population worked 35 hours or more per week. Nationally, in 1981, 41% of two-year college students worked and the average work week was 21 hours (Applied Systems Institute 1983). At Tidewater Community College, Virgina 75% of the respondents to a mail in questionnaire worked and, of these, 31% indicated they would not enroll if a class conflicted with their personnal/work schedule (Gresty 1981). The Carnegie Council on Policy Studies in Higher Education (Carnegie 1982) found that, for older adults, the opportunity to attend college part-time, or to schedule classes around work and family responsibilities may determine whether one gets a college education or not. The demands society places on its students are in turn societal factors with which the College must deal. It must try to offer an academic schedule with sufficient class sections at times when students are willing to attend.

Significance of the Investigation to Saddleback College

The description of the typical community college class schedule by Cohen and Atherton (1981) describes the Saddleback College schedule perfectly. The classrooms are fully utilized from mid-morning to after lunch and again from early evening until closing at 10 p.m. The student demand for classes can be met only through more effective use of the currently under utilized mid- and late-afternoon time periods. Courses successfully placed in these periods would increase the enrollment at Saddleback College and lead to an increase in the operating funds allocated to the College by the State. Increased student enrollment during the afternoon hours would improve the utilization of the physical plant and add support for the College's request for additional classroom facilities. Thompson (1985) is convincing in his argument that the proper scheduling of classes is "crucial to attracting and retaining the reservoir of students needed to maintain academic and financial integrity."

Review of the Literature

Schedule Conflicts Effect an Institution's Enrollment

Several studies have shown that scheduling conflicts often effect students' enrollment decisions and that loss of enrollment for this reason can be significant to a college.

In a mail in survey during the fall of 1980 at Tidewater Community College, Virginia with a 62% response rate Gresty (1981) found that 25% of the respondents indicated an inability to schedule

all the courses desired. 32% of this group gave as their reason a time conflict between desired courses or the students' schedule. When the loss of class hours was extrapolated to the institution as a whole, it was estimated that 450 full-time equivalent student hours (FTE) were lost.

Lucas (1977) described a survey with a 39% response rate run during registration for fall 1977 at William Rainey Harper College, Illinois to determine the extent of enrollment loss due to scheduling problems. 29% of the respondents were not able to get all the classes they wanted and the most frequently stated reasons were: class was closed, classes were offered at inconvenient times. The institutional FTE loss was estimated at between 5 and 10%. In a later study Lucas (1980) found that the primary reason given by students for withdrawing from courses was that the times the course met proved to be too inconvenient.

In an investigation of the characteristics of the students who attended Lakeland Community College during the fall 1978 quarter but did not return for the winter 1979 quarter, a questionnaire was mailed to half of these students and about 25% were returned. 58% indicated a major reason for not returning was "scheduling conflicts between jobs and studies" and 33% pointed to the fact that the "time courses offered was not convenient" (Donsky 1979).

A telephone survey was conducted at Charles Stewart Mott Community College in 1982 to determine why many persons admitted to the College never completed any courses. While Zitzewitz (1982) found the most frequent (17%) reason given to be the intervention of personnal or family problems, the next most often cited (14%) reason was that the

classes they needed were full or cancelled. 9% indicated they could not schedule the classes they wanted to take.

Pastor (1984) found, at Northern Essex Community College, Massachusetts, that nontraditional age students were more influenced by course accessibility than the younger traditional aged students.

Baratta (1977) described a survey taken at Moraine Valley Community College, Illinois during course registration for spring 1977. With a 45% response rate the survey found that 14% of the full-time students and 16% of the part-time students were not able to schedule the classes they needed.

Student Class Schedule Preferences

Students, faculty and community members have often been asked to identify their preferences for class times and number of meetings per week for 3 unit courses. These studies show that early mornings and mid afternoons are the least popular options. Meeting frequencies of once or twice a week are usually prefered for 3 unit courses over three meetings per week.

When students in the Tidewater Community College study (Gresty 1981) were asked if they would enroll in courses offered at times other than from 8 a.m. to 1 p.m., they indicated a much greater preference for classes starting at 4:15 p.m. or later in the evening than for either mid afternoon or early morning classes.

At Moraine Valley Community College the full-time students constituted 30% of the total population in 1977. Baratta (1977) found their time preferences to be: morning -- 62%; afternoon -- 21%; evening -- 17%. Their preference for the number of meetings per week for a 3 unit class was: one -- 16%; two -- 48%; three -- 36%. The time preferences

for the part-time students was: morning -- 40%; afternoon -- 7%; evening -- 53%. Their preference for the number of meetings per week for a 3 unit class was: one -- 34%; two -- 57%; three -- 9%. In a parallel study at Moraine Valley Community College, Noonan (1977) found that the faculty preference for the number of meetings per week for a 3 unit class was: one -- 23%; two -- 64%; three -- 13%. The actual class schedule had the number of meetings for 3 unit classes scheduled as follows: one -- 25%; two -- 44%; three -- 31%.

In a 1972 survey for the Commission on Non-traditional Study (Gould Commission) adults were asked to indicate their preference for class time schedules and their primary responses were: one evening a week -- 23%; two or more evenings a week -- 26%; two or more mornings or afternoons a week -- 11%. (Carnegie 1982)

In a needs assesment telephone survey of the surrounding community, South Oklahoma Junior College (1978) found that the distribution of preferred course times was: early evening -- 31%; early afternoon -- 31%; late evening -- 17%; mornings -- 13%; late afternoon -- 4%; anytime -- 4%.

In a similar needs assesment telephone survey of the community surrounding Santa Ana College, California, Slark (1980) found the distribution of preferred class times to be: mornings -- 33%; afternoons -- 15%; evening -- 48%. A 3 unit class meeting once a week was overwhelmingly preferred to one meeting three times a week by every age group except those under 20 years.

Programs for Enhancing Afternoon Student Enrollment

Although the afternoons have proven to be fairly unpopular times for students to take classes, several college programs have been successful in significantly increasing enrollment and utilization in the afternoon.

San Diego Mesa College, California instituted the "Mesa Afternoon Curriculum" (MAC) in 1979 (Cohen and Atherton 1981). The goal was to strengthen retention of traditional students and provide greater opportunities for non-traditional enrollees. The academic year was divided into five 6 week sessions. Using 3 unit general education classes running Monday through Thursday, scheduled 1 to 3 or 3 to 5 p.m., the program drew 3000 students to 110 sections in its first year. MAC was heavily marketed under the slogan "Earn 6 units in 6 weeks." Parking fees were waived for MAC students. At the end of the first year, 82% of the MAC students planned to take additional MAC courses in the fall of 1980. College room utilization was increased from 50% of the available capacity to over 76%.

Pollack (1984) described the development of a virtual glut of mid morning classes at Florida's Brevard Community College. This situation limited the opportunities to improve "instructional effectiveness and enrollment efficiency." Competing early morning or afternoon classes were thinly enrolled and likely to be cancelled. A scheduling model was created which spread the classes more evenly over the periods from 8 a.m. to 3 a.m. The effect was the alleviation of the physical crunch in the classroom and parking lot. Free period use of the laboratory and learning resource facilities was expanded.

Blakesley (1982) advised that classes not be allowed to queue at prime times since the resulting schedule is "neither academically sound nor economically appropriate." He recommended that when departments add lecture courses and sections above the total number offered the previous year, they should be scheduled in low-use time blocks. No increase in peak period use should be permitted. If possible, reductions (cancellations) should come from the peak periods and not the low volume periods.

Summary of the Review of the Literature

The literature clearly described the negative impact schedule conflicts have on college enrollments. Students least preferred afternoon classes but other time blocks have been scheduled to the point of saturation. Afternoon classes can be run very successfully if carefully planned, not constantly at risk of being cancelled and strongly marketed. This study provided the administration of Saddleback College with the information about local student preferences necessary to make appropriate decisions concerning the afternoon program.

The Influence of the Literature on this Investigation

It was decided to run a student survey during the class registration process as Lucas (1977) and Baratta (1977) had done. As with each source found in the literature, the time blocks and meeting frequency the students were given to choose between was for a 3 unit course. Students were divided in to the age groups suggested by Slark (1980). Following Gresty's (1981) questionnaire model, no prime course times appeared on the questionnaire and the student indicated their preferences

with a check mark. Cohen and Atherton (1981) indicated that the Mesa Afternoon Curriculum encountered several administrative problems by running short courses within a traditional semester format. It was thus decided to look for student preferences based on full semester courses. The literature showed that Saddleback College's scheduling problem is not unique and that it can be successfully addressed.

Chapter 3

PROCEDURES

Population and Sample Selection

Because this investigation was concerned with class scheduling preferences at Saddleback College, the population consisted of all students enrolled in classes at the College in the spring 1986 semester excluding those individuals only registered for the programs conducted by the Emeritus Institute. The Emeritus Institute operates classes off campus at times and localities convenient for many of the senior adults in the College's service area.

A sample was drawn from this population during course registration for the spring 1986 semester. The registration personnel distributed the questionnaire at times when queues developed in the registration process. Each student in the queue was asked to complete the questionnaire. The daily goal was two hundred completed forms. Several factors contributed to the randomness of this sample. The queues developed at random times. They were caused by the random arrival times of the students and the random occurrence of registration computer malfunctions. The students had been assigned a day and time according to the first letter of their last name. It was then that they could first appear for registration. They usually came at this time or as soon as possible afterward so they could enroll in the class sections they preferred before the classes filled. The questionnaire was distributed at various times throughout the day and evening. The numbers of

questionnairs collected during the morning (494), afternoon (495) and evening (491) were essentially equal. Another 24 questionnaires were completed and placed in the campus mail. Their time of completion was consequently impossible to determine.

A total of 2600 questionnaires were distributed to students and 1504 were returned. Of those questionnaires returned 1308 were considered usable for this investigation. To be usable the questionnaire must have had the gender and age of the respondent indicated. Also statement 1, "I am willing to take afternoon classes." had to be answered either "yes" or "no" and the time (morning, afternoon or evening) the questionnaire was collected had to be known.

To give a measure of confidence of how well the sample represented the population, the gender and age distributions of the sample were compared with those of the population. The test for proportions (Byrkit 1980) was used on the hypotheses:

H_o: The sample proportion and the population proportion are equal

H_1: The sample proportion and the population proportion are different.

The proportions tested were gender (female, male) and age (under 20, 20's, 30's, 40's, 50's, 60 and over). Using a .05 level of significance the null hypothesis, H_o, was accepted only for the proportion of students in their 20's. It was not rejected for either gender proportion. The null hypothesis was strongly rejected for the remaining five proportions. For example, 10.1% of the population was under 20 while 25% of the sample was under 20 years of age. The rejection of the null hypothesis came with such resounding force that use of the sample would have left the results with a neglible degree of confidence. Two methods were used to modify the sample so that the sample on which the results were based

was representative of the population age and gender distributions.

Using the known population and sample proportions for age and gender, weighting factors were calculated which, when applied to each questionnaire, yielded sample proportions comparable to those of the population. The proportion hypothesis tests were repeated and the null hypothesis accepted in every catagory. This sample was labeled the "weighted sample."

As an alternative to the weighted sample, the original sample of 1304 usable questionnaires was itself sampled at random using a computer and its random number generator. From the known population age proportions the number of questionnaires needed in each age group in a representative sample was calculated. The largest possible revised sample size was found to be 536. Only then were the thirty questionnaires returned by students in their 50's large enough to be in the necessary proportion for the sample. A computer program was written which pulled, from the original sample, the required number of questionnaires for each age group. The gender proportions were calculated and the hypothesis tests executed. If the null hypothesis was accepted the distribution of times (morning, afternoon and evening) the questionnaires in the revised sample were collected was calculated. If any of the time categories constituted less than 30% or more than 36% of the revised sample, it was rejected. The process was repeated until these criteria were met. This sample was labeled the "revised sample."

The demographics of the population, original, weighted and revised samples are shown in Appendix B. The population information was derived from Nelson and Phaneuf (1986).

Questionnaire

An example of the questionnaire used in this study is given in Appendix A. It was put together from the results of several meetings the Dean of Instruction held with faculty members, student representatives and the Dean's Cabinet. The Dean's Cabinet was chaired by the Dean of Instruction and included all the associate and division deans. Because of their ultimate responsibility for the development of the class schedule each semester, the Dean's Cabinet constituted a panel of experts in this area. The Dean's Cabinet made the final determination that the questionnaire shown in Appendix A was the survey tool for this study.

Collection of the Data

The questionnaires were handed out and returned to the personnel in charge of course registration. The completed questionnaires were collected from the registration area and placed in a central storage site. These collections occurred three times each day: at the lunch break, at the dinner break and before registration began the next morning. These questionnaire packets were dated, timed and kept separate from one another.

Assumptions of the Investigation

The primary assumptions of this investigation were:

1) The students proceeding through the registration stations actually became registered students.
2) The students of the spring 1986 semester were typical of the population from which Saddleback College draws its students.

3) Spring 1986 was a typical semester at Saddleback College.

Limitations of the Study

The primary limitations of this investigation were:

1) Only students registering for the spring 1986 semester were polled.
2) Only the student's afternoon scheduling interests were considered.
3) Only students of Saddleback College were involved in the investigation.

Analysis of the Data

The proportion of both the weighted and revised samples who said "yes" to the statement "I am willing to take afternoon classes." was calculated and a 95% confidence interval for the population proportion given. From Byrkit (1980:203) there is 95% confidence that the population proportion lies in the following interval:

$$p - 1.96s_p \quad \text{to} \quad p + 1.96s_p$$

where: p = sample proportion

n = sample size

$$s_p = \sqrt{p(1 - p)/n}.$$

The class day and time preferences for those who indicated willingness to take afternoon classes were tallied and represented as percents of the total sample catagory. The free responses to questionnaire statement 5, "Please list the specific courses that you would like to see offered in the 'Afternoon Program.'" were grouped according to their instructional divisions at Saddleback College and tallied.

Chapter 4

RESULTS

The findings presented in this chapter reflect the data gathered from the questionnaires returned by students during the registration period for the spring 1986 semester at Saddleback College.

Students indicated their willingness to take afternoon classes by responding with "yes" to the statement "I am willing to take afternoon classes." 58.1% of the weighted sample and 58.8% of the revised sample answered "yes." With a 95% level of confidence the proportion of the Saddleback College student population willing to take afternoon classes was between 55% and 63%.

For each gender and age category the proportion of students willing to take afternoon classes is shown in Table 1. The majority of students in each of these categories, except those under 20 years in the revised sample, was willing to take afternoon classes.

Table 1

Proportion of Gender and Age Categories Willing To Take Afternoon Classes

Category	Weighted Sample	Revised Sample
Gender:		
Female	58.6%	59.0%
Male	57.3%	58.4%

Table 1 (continued)

Category	Weighted Sample	Revised Sample
Age:		
Under 20	53.8%	48.1%
20's	57.7%	57.0%
30's	55.7%	61.4%
40's	55.0%	58.6%
50's	67.0%	66.7%
60 and over	80.6%	76.9%

Students willing to take afternoon classes considered themselves to be primarily seeking transfer to a four year college or university. Very few of the students willing to take afternoon classes were primarily seeking remedial or developmental classes. The proportion of both samples selecting each of the listed options in questionnaire statement 4 "I consider myself primarily a student seeking:" are given in Table 2.

Table 2

Primary Educational Reasons Students Willing To Attend in the Afternoon Sought Classes

Option	Weighted Sample	Revised Sample
Transfer to the four year college or university	54.0%	52.1%

Table 2 (continued)

Option	Weighted Sample	Revised Sample
Vocational Training	9.4%	9.8%
Vocational Training and Certificate	17.2%	16.5%
Remedial or Developmental Classes	0.8%	0.6%
Retraining for Business and Industry	9.5%	9.2%
Classes for Personal Development	28.5%	26.7%
Continuing Education	22.9%	26.3%

Of the students in the weighted sample willing to take classes in the afternoon, the majority preferred 3 unit courses to be scheduled in two 1.5 hour sessions each week. In fact 59% of the sample preferred this schedule while 39% preferred a single 3 hour session each week and 12% indicated a preference for three 1 hour class sessions each week. Since several students indicated a preference for more than one of these schedule options, the sum of the sample proportions exceeded 100%. Both the majorities of female and male students gave the 1.5 hour schedule as their preference. The 1.5 hour schedule was most popular with students under 30 years of age or in their 50's. The single 3 hour session was most popular with students in their 30's, 40's or 60 and over. The three 1 hour sessions schedule was the least popular option of every age group except those under 20. Table 3 shows the weighted sample preference proportions of each gender and age group for each of the 3 unit course schedule options.

Table 3

Three Unit Course Schedule Preferences For Students Willing To Take Afternoon Classes

Category	1 hour/3 days	1.5 hours/2 days	3 hours/1 day
Gender:			
Female	10%	60%	40%
Male	15%	56%	37%
Age:			
Under 20	21%	69%	14%
20's	17%	68%	30%
30's	3%	52%	53%
40's	4%	46%	57%
50's	10%	53%	41%
60 and over	8%	33%	55%

Three unit classes meeting Tuesday and Thursday from 1:30 to 3:00 p.m. or Monday and Wednesday from 1:30 to 3:00 p.m. were the most preferred afternoon class times for students willing to take three unit courses in the afternoon. The remaining class time options had preference proportions at least 15% less than these values. Table 4 shows the ten most preferred afternoon class times by those in the weighted sample willing to take afternoon classes. The complete list of class time preferences is given in Appendix C.

Table 4

Ten Most Preferred Afternoon Class Times
For Three Unit Courses

Days	Time	Preference Proportion
Tuesday and Thursday	1:30 to 3:00	45%
Monday and Wednesday	1:30 to 3:00	42%
Tuesday and Thursday	1:00 to 3:30	27%
Tuesday	1:30 to 4:30	26%
Monday, Wednesday and Friday	1:30 to 2:30	25%
Tuesday and Thursday	4:30 to 6:00	24%
Monday	1:30 to 4:30	24%
Monday and Wednesday	4:30 to 6:00	23%
Wednesday	1:30 to 4:30	23%
Thursday	1:30 to 4:30	23%

The class times for 3 unit afternoon courses most preferred by female and male students considered separately were the same. They were Tuesday and Thursday from 1:30 to 3:00 p.m. and Monday and Wednesday from 1:30 to 3:00 p.m. Male students next preferred late afternoon classes: Monday and Wednesday from 4:30 to 6:00 p.m., Tuesday and Thursday from 4:30 to 6:00 p.m. Female students, however, next preferred alternative options starting at or near 1:30 p.m. Table 5 shows the ten class schedule times most preferred by male and female students considered separately.

Table 5

Ten Afternoon Class Schedule Times Most Preferred
By Male and Female Students

Female Students			Male Students		
Days	Time	Proportion	Days	Time	Proportion
Tu/Th	1:30 to 3:00	48%	Tu/Th	1:30 to 3:00	41%
M/W	1:30 to 3:00	44%	M/W	1:30 to 3:00	39%
Tu/Th	1:00 to 3:30	29%	M/W	4:30 to 6:00	27%
Tu	1:30 to 4:30	27%	Tu/Th	4:30 to 6:00	27%
M	1:30 to 4:30	26%	M/W/F	1:30 to 2:30	26%
W	1:30 to 4:30	25%	Tu/Th	1:00 to 3:30	25%
M/W/F	1:30 to 2:30	24%	Tu	1:30 to 4:30	23%
Th	1:30 to 4:30	24%	Th	1:30 to 4:30	22%
M/W	2:00 to 3:30	23%	M	1:30 to 4:30	21%
Tu/Th	4:30 to 6:00	23%	W	1:30 to 4:30	21%

where M is Monday, Tu is Tuesday, W is Wednesday, Th is Thursday and F is Friday

The free responses of the original sample to questionnaire statement 5 "Please list the specific courses that you would like to see offered in the 'Afternoon Progam:' " were grouped by instructional division at Saddleback College and tallied. The large Division of Mathematics, Sciences and Engineering had its courses mentioned 125 times. The next most frequent requests for afternoon classes came for courses in the Division of Liberal Arts and Humanities and the Division of Fine

Arts and Communications. Table 6 lists the number of requests for afternoon courses in each of the instructional divisions.

Table 6

Number of Afternoon Courses Requested From Each Instructional Division

Division	Number of Requests
Applied Science and Technology	68
Business Science	74
Fine Arts and Communications	94
Health Sciences and Human Services	30
Liberal Arts and Humanities	95
Mathematics, Sciences and Engineering	125
Physical Education, Recreation, Health and Atheletics	41
Social Sciences	69

The most requested disciplines were English and Mathematics with 63 and 44 requests respectively. There were 19 requests for "general education" courses. Those disciplines which received 20 or more requests are listed in Table 7.

Table 7

Disciplines That Received Twenty Or More
Afternoon Course Requests

Discipline	Number of Requests
English	63
Mathematics	44
Art	42
Psychology	23
Computers	23
Foreign Language	22
Biology	21
Music	21

Chapter 5

DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

Discussion

Fifty-eight percent of the students who were given questionnaires returned them at least partially completed. Although this response rate was greater than the forty-five percent Baratta (1977) observed and the thirty-nine percent Lucas (1977) encountered in similar registration surveys, it still allowed a significant nonresponse bias. The younger students were much more likely to complete the survey than were students beyond their 20's. Perhaps those students under 20 had not yet adapted to the freedom inherent in higher education and reacted to the questionnaire as a registration requirement. The results, of course, were based on the data after the age bias was removed.

The data clearly showed a substantial willingness on the part of Saddleback College students to take afternoon classes. This interest was spread uniformly through gender and age categories. Students under 20 were the least interested in afternoon classes. This may have been due to adjustment to their high school schedules and fewer family or work obligations. Students generally preferred three unit afternoon classes to be scheduled in 1.5 hour or 3 hour blocks. This was similar to the findings of Baratta (1977) and Slark (1980). As Slark (1980) noted, there was greater interest in three unit classes scheduled in 1 hour blocks by students under 20 than by other students. This investigation, however, found far less interest by the age group under 20 in single

3 hour blocks than observed by Slark (1980).

Most of the students interested in afternoon classes were primarily seeking transfer to the four year college and university. The need, therefore, to meet transfer and general education requirements partially explained the large number of afternoon course requests in the general education areas: English, mathematics, arts and so on. San Diego Mesa Community College (Cohen and Atherton 1981) successfully built their afternoon program around the transfer and general education needs of its students in several major fields. Gresty (1981) found that students had the greatest difficulty scheduling English and mathematics. This study found these two disciplines the most requested for afternoon scheduling.

The overwhelming preference was for afternoon classes ending by 3:00 p.m. This conformed to the primary interest in early afternoon classes found by South Oklahoma Junior College (1980) and the success Brevard Community College experienced in extending their class schedule to 3:00 p.m. (Pollack 1984). San Diego Mesa Community College (Cohen and Atherton 1981) used only two different time blocks for its afternoon program and the first of these ended at 3:00 p.m. This investigation also found interest in three unit classes which met two days a week starting at 4:30 p.m. and those scheduled in a single three hour block from 1:30 to 4:30 p.m.

Implications

The proportion of Saddleback College students who were willing to take afternoon classes during the spring 1986 semester was most probably somewhere between 55% and 63%. Actually, only 38% (Nelson and

Phaneuf 1986) enrolled in afternoon classes during the spring 1986 semester and there was thus an unsatisfied willingness of between 17% and 25% of the students of Saddleback College.

Assuming 58% of the student population were willing to take afternoon classes and 45% of this group found the class time Tuesday and Thursday from 1:30 to 3:00 p.m. convenient, 26% of the students of Saddleback College were willing to take classes at this time. This level of interest was compared with the actual student enrollment patterns for the fall 1985 semester available from Nelson (1985). In Figure 1 is represented the proportion of the student population enrolled in class on Thursday at the times listed. Assuming the proportion

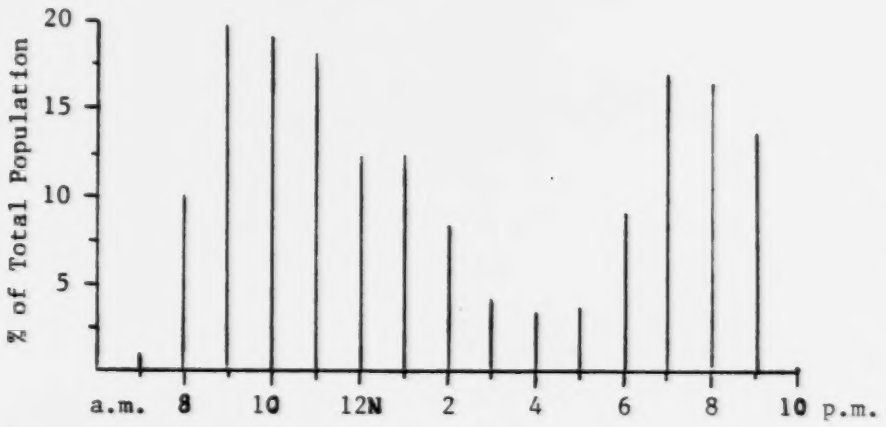

Figure 1

Proportion of Students Enrolled In a Class At Each Hour For Thursday, Fall 1985

was the same for spring 1986, there were only 8.5% of the population enrolled at 2:00 p.m. Although there was the potential for 26% to be enrolled at this time, the physical restrictions of the the College facilities would have limited the achievable proportion to the saturation level of 19.6% observed at 9:00 a.m. Consequently the possibility

existed for enrollment of an additional 11% of the student population on Tuesday and Thursday from 1:30 to 3:00 p.m.

Assuming 24% of those willing to take afternoon classes were willing to enroll in classes on Tuesday and Thursday from 4:30 to 6:00 p.m., the possible enrollment proportion of the population was 15%. However only 3.6% were in class at 5:00 p.m.

If the late morning level of enrollment had been held until 3:00 p.m. and the potential of 15% reached from 4:30 to 6:00 p.m. on Tuesday and Thursday, the average daily attendance (ADA) added to the district would have been in the neighborhood of 762. The associated added income to the College would have been approximately two million dollars.

The students represented by this increase in ADA would have come from those unable to schedule all the courses desired (Baratta 1977, Gresty 1981, Lucas 1977, Zitzewitz 1982) and those who had personal conflicts at other times (Donsky 1979, Pastor 1984). Perhaps some morning students would have moved their classes to the afternoon. This would have made space available in the morning for those who preferred classes in those hours but were not able to schedule them.

The possible added income described above would have made a significant contribution to the College budget. The increased facilities utilization would have made the College's requests for added classroom space more convincing to the State. Most importantly, improved schedule options and attendance would have implied the increased ability of students to move forward with their education in a convenient and efficient manner.

Recommendations

It is recommended that more general education and other popular transferable courses be scheduled in the following time blocks:

Tuesday/Thursday and Monday/Wednesday from 1:30 to 3:00 p.m. and 4:30 to 6:00 p.m.

Monday, Tuesday, Wednesday and Thursday from 1:30 to 4:30 p.m.

This investigation found greater student willingness to take classes in these time periods than achieved in current utilization.

Such schedule modifications would provide more class offerings at times students are willing to attend class and improve the financial health and physical utilization of the College.

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APPENDIX A

QUESTIONNAIRE USED IN THE INVESTIGATION

SADDLEBACK COLLEGE AFTERNOON PROGRAM
Student Questionnaire

Saddleback College wants to provide a balanced schedule of classes that will meet the needs of the greatest number of students. As a result the College has designed an "Afternoon Program" In an effort to tailor this program to your specific needs, we are requesting your direct responses. Please take the time to answer and return this very important questionnaire. Thank you for your assistance.

1. I am willing to take afternoon classes. ( ) Yes ( ) No

2. I prefer 1½ hour classes on two days ( )
   I prefer 3 hour classes on one day ( )
   I prefer 1 hour classes on three days ( )

3. Afternoon classes would best meet my class scheduling needs in the following time blocks. Please check any time blocks when you can take classes.

MULTIPLE-DAY CLASSES

Monday/Wednesday	Tuesday/Thursday	Monday/Wednesday/Friday
( ) 1:30-3:00 p.m.	( ) 1:30-3:00 p.m.	( ) 1:30-2:30 p.m.
( ) 2:00-3:30 p.m.	( ) 1:00-3:30 p.m.	( ) 2:00-3:00 p.m.
( ) 2:30-4:00 p.m.	( ) 2:30-4:00 p.m.	( ) 2:30-3:30 p.m.
( ) 3:00-4:30 p.m.	( ) 3:00-4:30 p.m.	( ) 3:00-4:00 p.m.
( ) 3:30-5:00 p.m.	( ) 3:30-5:00 p.m.	( ) 3:30-4:30 p.m.
( ) 4:00-5:30 p.m.	( ) 4:00-5:30 p.m.	( ) 4:00-5:00 p.m.
( ) 4:30-6:00 p.m.	( ) 4:30-6:00 p.m.	( ) 4:30-5:30 p.m.
		( ) 5:00-6:00 p.m.

SINGLE-DAY CLASSES

Monday	Tuesday	Wednesday	Thursday	Friday
( ) 1:30-4:30	( ) 1:30-4:30	( ) 1:30-4:30	( ) 1:30-4:30	( ) 1:30-4:30
( ) 2:00-5:00	( ) 2:00-5:00	( ) 2:00-5:00	( ) 2:00-5:00	( ) 2:00-5:00
( ) 2:30-5:30	( ) 2:30-5:30	( ) 2:30-5:30	( ) 2:30-5:30	( ) 2:30-5:30
( ) 3:00-6:00	( ) 3:00-6:00	( ) 3:00-6:00	( ) 3:00-6:00	( ) 3:00-6:00

4. I consider myself primarily to be a student seeking: (You may select any that apply):

   a. Transfer to the four year college or university ( )
   b. Vocational training ( )
   c. Vocational training and certificate ( )
   d. Remedial or developmental classes ( )
   e. Retraining for business and industry ( )
   f. Classes for personal development ( )
   g. Continuing education ( )

5. Please list the specific courses that you would like to see offered in the "Afternoon Program:"

   _____ _____
   _____ _____
   _____ _____

6. ( ) Male ( ) Female

7. AGE: Under 20 ( ) 20 - 30 ( ) 30 - 40 ( )
   40 - 50 ( ) 50 - 60 ( ) Over 60 ( )

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APPENDIX B

POPULATION AND SAMPLE DEMOGRAPHICS

POPULATION AND SAMPLE DEMOGRAPHICS

	Population	Sample	Weighted Sample	Revised Sample
Gender				
Female	8738 (58.4%)	790 (60.4%)	764 (58.4%)	322 (60.0%)
Male	6227 (41.6%)	518 (39.6%)	544 (41.6%)	214 (40.0%)
Total	14965 (100.0%)	1308 (100.0%)	1308 (100.0%)	536 (100.0%)
Age				
Under 20	1511 (10.1%)	327 (25.0%)	134 (10.2%)	54 (10.1%)
20's	6747 (45.1%)	588 (45.0%)	597 (45.6%)	242 (45.1%)
30's	3189 (21.3%)	221 (16.9%)	273 (20.9%)	114 (21.3%)
40's	1948 (13.0%)	111 (8.5%)	166 (12.7%)	70 (13.1%)
50's	838 (5.6%)	30 (2.3%)	74 (5.7%)	30 (5.6%)
60 and over	725 (4.9%)	31 (2.4%)	65 (4.9%)	26 (4.9%)
Unknown	7 (0.0%)			
Time Distribution of Questionnaire Collection				
Morning	———	448 (34.3%)	419 (32.0%)	164 (30.6%)
Afternoon	———	437 (33.4%)	433 (33.0%)	189 (35.3%)
Evening	———	423 (32.3%)	456 (35.0%)	183 (34.1%)

APPENDIX C

AFTERNOON CLASS SCHEDULE PREFERENCES
OF STUDENTS WILLING TO TAKE
AFTERNOON CLASSES

AFTERNOON CLASS SCHEDULE PREFERENCES
OF STUDENTS WILLING TO TAKE
AFTERNOON CLASSES
(WEIGHTED SAMPLE)

Days	Time	%	Days	Time	%
Tu/Th	1:30 to 3:00	45	Tu/Th	3:30 to 5:00	16
M/W	1:30 to 3:00	42	M/W/F	5:00 to 6:00	16
Tu/Th	1:00 to 3:30	27	M/W	3:00 to 4:30	15
Tu	1:30 to 4:30	26	M/W	3:30 to 5:00	15
M/W/F	1:30 to 2:30	25	M/W/F	2:00 to 3:00	14
Tu/Th	4:30 to 6:00	24	F	3:00 to 6:00	14
M	1:30 to 4:30	24	Tu	2:00 to 5:00	13
M/W	4:30 to 6:00	23	Th	2:00 to 5:00	12
W	1:30 to 4:30	23	W	2:00 to 5:00	12
Th	1:30 to 4:30	23	M/W/F	2:30 to 3:30	12
M/W	2:00 to 3:30	22	Tu	2:30 to 5:30	11
Tu/Th	2:30 to 4:00	20	M/W/F	4:30 to 5:30	11
Th	3:00 to 6:00	20	M/W	2:00 to 5:00	11
W	3:00 to 6:00	19	M/W/F	3:30 to 4:30	11
Tu	3:00 to 6:00	19	Th	2:30 to 5:30	11
M	3:00 to 6:00	18	M/W/F	3:00 to 4:00	10
Tu/Th	4:00 to 5:30	18	W	2:30 to 5:30	10
M/W	2:30 to 4:00	18	M/W/F	4:00 to 5:00	10
F	1:30 to 4:30	17	F	2:00 to 5:00	8
M/W	4:00 to 5:30	17	M	2:30 to 5:30	8
Tu/Th	3:00 to 4:30	17	F	2:30 to 5:30	7

where M is Monday; Tu is Tuesday; W is Wednesday; Th is Thursday; F is Friday

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